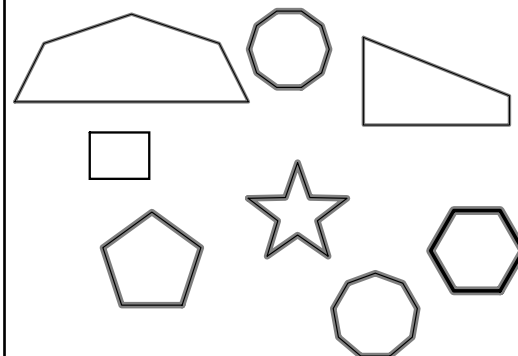


## 1-6 Polygons

polygon--closed figure, whose sides are all segments

- sides have a common endpoint and are non collinear
- each side intersects exactly 2 other sides

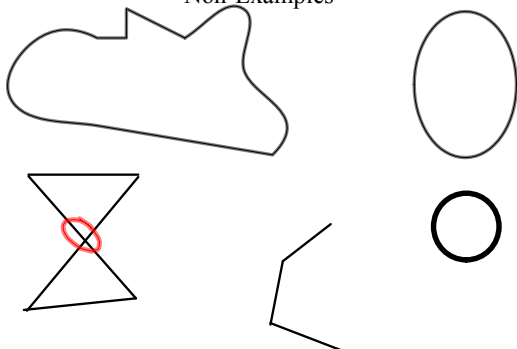
## Examples



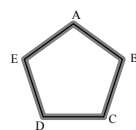
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## Non-Examples




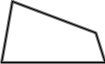


Name by the vertices, in consecutive order







ABCDE  
BCDEA

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Types of Polygons		
Shape	# of sides	Name
	3	Triangle
	4	Quadrilateral
	5	Pentagon
	6	Hexagon

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	7	Heptagon
	8	Octagon
	9	Nonagon
	10	Decagon

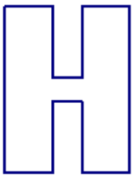
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11-gon



12-gon

Dodecagon

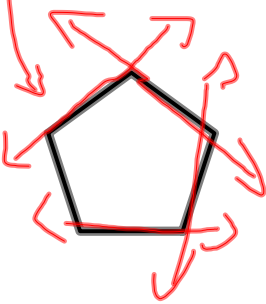


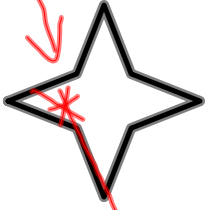


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Convex--A polygon is convex, if the line containing a side does not contain points on the interior of the polygon

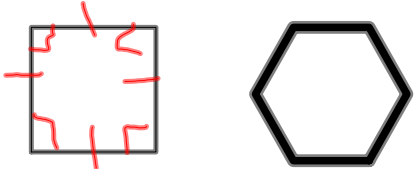
Concave--Not convex





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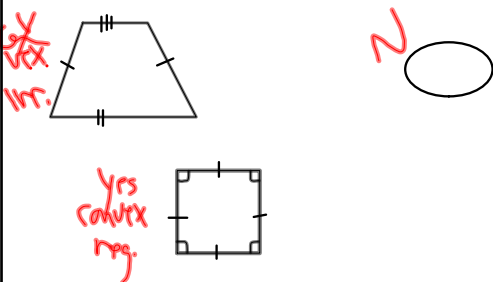
Regular Polygon--convex polygon where all of the sides are congruent, and all of the angles are congruent



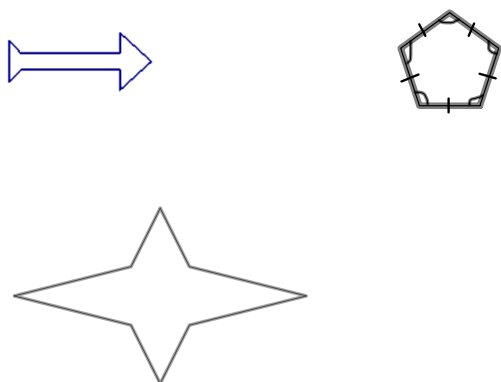
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Classify the following figures as:

- polygon or not (if polygon, what type)
- convex or concave
- regular or irregular

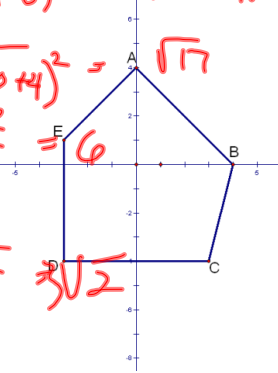


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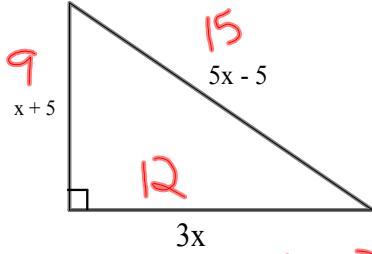
Find the perimeter of ABCDE  
A(0, 4) B(4, 0) C(3, -4) D(-3, -4) E(-3, 1)



$AB = \sqrt{(0-4)^2 + (4-0)^2} = \sqrt{32} = 4\sqrt{2}$   
 $BC = \sqrt{(4-3)^2 + (0+4)^2} = \sqrt{17}$   
 $CD = \sqrt{(3-3)^2 + (-4+4)^2} = 0$   
 $DE = |-4-1| = 5$   
 $EA = \sqrt{(0-3)^2 + (4-1)^2} = \sqrt{10}$

Sep 24-9:49 AM

If the perimeter of the triangle below is 36 units, find the length of the sides.



$$3x + x + 9 + 12 + 15 = 36$$
$$9x = 36 \quad x = 4$$

HW

p48-50

#s 5-8, 26, 29-33

Sep 19-2:51 PM

Sep 19-2:54 PM